

IN THE CLAIMS

Please amend the claims as follows:

Claim 1 (Currently Amended): A method of reclaiming a used silicon wafer from a semiconductor manufacturing process, wafers, comprising:

in the following order,

a film removal process including removing at least one of a metal film, a metal silicide film, a metal oxide film, and a metal nitride film from the used silicon wafer to form a silicon wafer having a silicon surface;

contacting the silicon surface of the silicon wafer with at least one of an SC1 and an SC2 liquid to diffuse copper from the interior of the silicon wafer to the silicon surface of the silicon wafer;

a heating/removal process to remove a portion of the silicon surface of the silicon wafer;

a polishing process; and

a cleaning process to form a reclaimed silicon wafer having a silicon surface and a concentration of copper of less than 2×10^{12} atom/cm³;

~~wherein the heating/removal process is between the film removal process and the polishing process;~~

wherein the heating/removal process comprises (i) heating the silicon wafer at 150-300 °C for 20 minutes to 5 hours and (ii) a chemical process that comprises removing a surface part of the silicon wafer by etching the top surface of the silicon wafer with a solution comprising one or more of an alkaline hydroxide and an alkaline carbonate to a depth of about 1 μm .

Claim 2 (Previously Presented): The method of reclaiming silicon wafers according to claim 1, wherein the heating/removal process further comprises a mechanical removal process.

Claims 3-4 (Canceled).

Claim 5 (Currently Amended): The method of reclaiming silicon wafers according to claim 1, wherein the method comprises both

an immersion process comprising chemically processing the silicon wafer with a chemical processing liquid[[]; and]]

~~the heating/removal process comprising heating the silicon wafer at 150-300 °C for 20 minutes to 5 hours and removing a surface part of the silicon wafer between the film removal process and the polishing process.~~

Claim 6 (Previously Presented): The method of reclaiming silicon wafers according to claim 5, wherein the chemical processing liquid comprises:

a hydrogen peroxide aqueous solution; a mixed solution of a hydrogen peroxide aqueous solution, an ammonia aqueous solution, and water;

a mixed solution of a hydrogen peroxide aqueous solution, hydrochloric acid, and water; alkaline hydroxide aqueous solution; or

an alkaline carbonate aqueous solution.

Claim 7 (Previously Presented): The method of reclaiming silicon wafers according to claim 5, wherein the heating/removal process comprises a mechanical removal process.

Claims 8-9 (Canceled).

Claim 10 (Previously Presented): The method of reclaiming silicon wafers according to claim 6, wherein the heating/removal process comprises a mechanical removal process.

Claims 11-13 (Canceled).

Claim 14 (Previously Presented): The method according to claim 1, wherein the heating/removal process does not form any oxygen donors.

Claim 15 (Previously Presented): The method according to claim 1, wherein the heating/removal process is carried out in air.

Claim 16 (Previously Presented): The method according to claim 1, wherein the maximum temperature is 300°C.

Claim 17 (Previously Presented): The method according to claim 1, wherein the heating/removal process is carried out to provide a silicon wafer having the same specific resistance of a virgin silicon wafer.

Claim 18 (Previously Presented): The method according to claim 1, wherein the heating/removal process does not vary the specific resistance of a P-type or N-type silicon wafer.

Claim 19 (Previously Presented): The method according to claim 1, further comprising:

one or more of (i) carrying out monitoring of a semiconductor chip manufacturing process with the silicon wafer and (ii) setting up one or more operating conditions of a semiconductor fabrication machine with the silicon wafer, before the film removal process.

Claim 20 (Previously Presented): The method according to claim 1, wherein the silicon wafers are testing wafers.

Claim 21 (Previously Presented): The method according to claim 1, wherein the method is carried out to reclaim the silicon wafer without Cu contamination.

Claim 22 (Previously Presented): The method according to claim 1, wherein the method is carried out to reclaim the silicon wafer.

Claim 23 (Previously Presented): The method of reclaiming silicon wafers according to claim 1, wherein the top surface of the silicon wafer is etched with a solution comprising an alkaline hydroxide.

Claim 24 (Previously Presented): The method of reclaiming silicon wafers according to claim 1, wherein the top surface of the silicon wafer is etched with a solution comprising an alkaline carbonate.

Claims 25-26 (Canceled).

Claim 27 (Previously Presented): The method of reclaiming silicon wafers according to claim 1, wherein the chemical process of the heating/removal process further comprises:
top surface cleaning the silicon wafer with an aqueous solution comprising HF and H₂O₂ after the etching.

Claim 28 (Previously Presented): The method of reclaiming a silicon oxide wafer according to claim 27, wherein the Cu concentration of the silicon wafer after the top surface cleaning is no more than 2×10^{12} atom/cm³.

Claim 29 (Canceled).

Claim 30 (Previously Presented): The method of claim 1, wherein the only chemical process of the heating/removal process is immersing the silicon wafer in the solution comprising one or more of an alkaline hydroxide and an alkaline carbonate.

Claim 31 (New): The method of claim 1, wherein the film removal process removes a metal oxide layer to form a silicon layer and the resulting silicon layer is contacted with an SC2 liquid.

Claim 32 (New): The method of claim 1, wherein the silicon surface formed by the film removal process is contacted with an SC1 liquid.

Claim 33 (New): The method of claim 1, wherein the film removal process removes a metal oxide layer to form a silicon layer and the resulting silicon layer is contacted with an SC1 liquid.